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<td>Three Fog Computing Based Variants of Congestion Control in ITS</td>
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Title of the Article: Sports Video Annotation and Multi-Target Tracking using Extended Gaussian Mixture model

Abstract: Video offers solutions to many of the traditional problems with coach, trainer, commenter, umpires and other security issues of modern team games. This paper presents a novel framework to perform player identification and tracking technique for the sports (Kabaddi) with extending the implementation towards the event handling process which expands the game analysis of the third umpire assessment. In the proposed methodology, video preprocessing has done with Kalman Filtering (KF) technique. Extended Gaussian Mixture Model (EGMM) implemented to detect the object occlusions and player labeling. Morphological operations have given the more genuine results on player detection on the spatial domain by applying the silhouette spot model. Team localization and player tracking has done with Robust Color Table (RCT) model generation to classify each team members. Hough Grid Transformation (HGT) and Region of Interest (RoI) method has applied for background annotation process. Through which each court line tracing and labeling in the half of the court with respect to their state-of-art for foremost event handling process is performed. Extensive experiments have been conducted on real time video samples to meet out the all the challenging aspects. Proposed algorithm tested on both Self Developed Video (SDV) data and Real Time Video (RTV) with dynamic background for the greater tracking accuracy and performance measures in the different state of video samples.

Keywords: 4G,5G, MIMO, Array, THz

References:
Abstract: In modern-day construction industry, cold-formed steel channels have been more interested as the conventional structural materials in place of hot-rolled steel members in order to reduce the weight of beams and girders without reducing their strength. Cold-formed steel becomes extensively used as structural and non-structural materials in building construction and engineering presentations. Various types of buckling behaviors usually govern the design strength of cold-formed steel channel sections. Because of their complex behaviors, the design guides for cold-formed steel are insufficient to be provided. This leads the questions to investigate the governing modes of failure of cold-formed steel built-up sections in both horizontal and vertical profiles. This article reviews the recent researches on cold-formed steel built up columns of diverse geometric shapes and connections under axial compression load. The objective is to summarize various modes of buckling in each built-up column. At the end of the study, the results are compared in detail through their geometric sections and provide recommendation for further studies.

Keywords: buckling behavior, built-up columns, cold-formed steel, vertical profile

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Author(s): Thu Ya Mon, Janani Selvam

Title of the Article: Buckling Behaviors of Cold-Formed Steel Built-Up Columns under Axial Compression Tests: Review Paper

Abstract: This paper clarifies about the smart assistive shoes for visually-impaired individuals. Our undertaking expects to build up a gadget that would fill in as a directing help to them.
It centers around planning a gadget for visual weakened (or visually impaired) individuals that would assist them with traveling freely and furthermore without any difficulty. One of the biggest problems that the visually impaired ones face is traveling. Because they walk in the indoors and outdoors which they are not aware of the data about the obstacles around them. The venture comprises of the smart shoes that alarms visually impaired individuals over hindrances dividing their ways and could help them in travelling with less crash. We will include a vibration framework which will demonstrate them about the area of hindrance and the item is predominantly founded on sensor innovation Sensors are used in order to find the hindrance. Arduino UNO is used to control the entire system. So the system will be more effective as well as simple. It mainly targets the visually challenged people all over the world.

Keywords: Blind Indication, Cost Efficient, Savvy Shoes, Sensor Innovation.

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Author(s): P. Arumugam, V. Kadhirveni, R. Lakshmi Priya, Manimannan G

Title of the Article: Prediction, Cross Validation and Classification in the Presence COVID-19 of Indian States and Union Territories using Machine Learning Algorithms

Abstract: The present study predicts, cross validate and classify the data of COVID-19 based on four machine learning algorithm with four major parameters namely confirmed cases, recoveries, deaths and active cases. The secondary sources of database were collected from Ministry of Health and Family Welfare Department (MHFWD), from Indian State and Union Territories up to March, 2021. Based on these background, the database classified and predicted various machine learning Algorithm, like SVM, kNN, Random Forest and Logistic Regression. Initially, the k-mean clustering analysis is used to perform and identified five meaningful clusters and is labeled as Very Low, Low, Moderate, High and Very High of four major parameters based on their average values. In addition the five clusters are cross validated using four machine learning algorithm and affected states were visualized with help of prediction and probabilities. The different machine learning modeling learning models achieved cross validation accuracy of 88%, 97%, 91% and 91%. Delhi, Uttarakhand and West Bengal were Moderately Affected States. Assam, Bihar, Chhattisgarh, Haryana, Gujrat, Madhya Pradesh, Odisha, Punjab, Rajasthan and Telangana are Low Affected States, wherein Tamil Nadu, Kerala, Andhra Pradesh and Karnataka are highly affected States and Maharashtra the Very Highly Affected State. Rest of the States and Union Territories has Very Low affected Covid-19 Cases is clearly identified.

Keywords: COVID-19, Machine Learning Algorithms, Prediction, Cross Validation and Classification.

References:
This paper examines the efficiency of the Indian Stock Markets (NSE) during the time of COVID. It demonstrates the impact on the market on the announcement of two major events that is the declaration of COVID as a Public Health Emergency Of International Concern (PHEIC) on 30th January 2019 and the day when Prime Minister Narendra Modi declared first lockdown in India, 24th March 2019. The study uses the Event Study methodology to determine the efficiency of the markets. The study found that the markets were in fact inefficient during the period under study and that there were numerous opportunities to make abnormal profits. The study also conducted a sector wise comparison to analyze the impact of the above mentioned events and found a major difference in the way each sector was affected by the news, indicating different levels of efficiency in the semi strong form of market. The results of this research helps one to understand investor behavior and biases and the different opportunities one could make use of, in order to make abnormal profits.

Keywords: COVID, (PHEIC), (NSE).

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Author(s): K.Mohan Das, K Baskar, C.Selinravi kumar, B.Karthik Chary

Title of the Article: Comparative Study between Analytical and Theo-retical Retrofitting of Rc Beam with Different Resins Bonded Cfrp Laminates

Abstract: This thesis details experimental work and finite part simulation of concrete beams retrofitted with carbon fiber strengthened compound (CFRP).The objectives of this study were to analyze the behavior of retrofitted beams to develop fi-nite part model describing the beams, supportive the fi-nite part model against the experimental results and eventual-ly investigation the influence of chemical compound resins(GP, ISO, Epoxy) on the sweetening of strengthening of retrofitted beams. The experimental results square measure performed to analyze the behavior of beams designed in such approach that either flexural or shear are going to be expected. The beams rectangle measure loaded at exploitation 2 pur-pose bending till cracks square measure developed. The beams were then blank and retrofitted with CFRP. Finally the beams were loaded till failure. The ANSYS program is employed to de-velop finite part models for simulation of behavior of beams.

Keywords: CFRP, ANSYS.

References:
Cultures that are empowered with the ability to learn and adapt are more resilient and can better respond to unexpected changes. This approach is particularly relevant in the context of wireless networks, where cognitive radio systems are used. The joint cooperative signal detection using Maximum Likelihood Detection for MIMO systems, which is the focus of the article, is a powerful method for enhancing the performance of wireless networks. The article presents a novel cooperative communication strategy that combines the strengths of Decode and Forward based relay schemes with iterative signal detection to improve the reliability of communication in cognitive radio systems. The simulations results proved the influence of MIMO assisted cooperative communication and the associated performance penalty gaps that come with imperfect channel state information at the destination node.

**References:**


Author(s): Ashutosh Yadav, Archana

Title of the Article: Reinforcement Learning with Variable Fractional Order Approach for MPPT Control of PV Systems for the Real Operating Climatic Condition

Abstract: The designing of maximum power point tracking (MPPT) controller is an integral part of the PV array system to ensure a continuous supply of energy in dynamic environmental conditions. The most challenging part here is to design a model that can track the maximum point irrespective of variations in environmental conditions and its parametric variations. The model designed in this article combats both the challenges as it is based on reinforcement learning with fractional-order. The application of Deep Q-learning makes the model parametric free and once the model trained can be implanted in a different scenario and run effectively. The amalgamation of fractional-order aids in the process by reducing the tracking time, oscillation around the peak, and total harmonic distortions. The model is well tested on standard conditions and has successfully achieved the desired results. Also, the proposed design is compared against various existing comparative algorithms to showcase its effectiveness in tracking time, THD, and maximum power. The design is also tested on the real data set, from the solcast where the test region is New Delhi, the capital of India. This region is taken as it faces one of extreme climatic condition and also being the second-highest most populated state faces an acute shortage of power throughout the year. The results have demonstrated that the model can produce maximum power even in the least solar irradiance conditions.

Keywords: fractional order factor; Reinforcement learning; Deep Q learning network; Maximum power point tracking (MPPT); Photovoltaic system; Real operating conditions (ROC)

References:
Title of the Article: Decolourization of Reactive Dye by using Novel Adsorbent

Abstract: The color of dye aqueous solution which cannot be removed by coagulation was selected to decolourize it through adsorption process by using novel adsorbents namely Flocs of Ferric Sulphate, Aluminium sulphate and Manganese sulphate. In order to know efficacy of adsorbents, batch sorption studies and equilibrium studies were conducted. Good color removal was achieved with Ferric sulphate at pH::4 and Manganese Sulphate at pH::10, which will be applicable to reduce the industrial dye effluent pollution. Equilibrium data applied to Langmuir Isotherm, was best fitted, stating monolayer formation and kinetic data applied to pseudo second order equation, was well fitted, stating that chemisorption is the rate limiting step.

Keywords: Adsorption, Kinetic Data, Equilibrium Data, Preformed Flocs, Isotherms and Chemisorptions.
Abstract: The existing traffic administration policy is not worthy enough to tackle the density of movement in Bangladesh. This study proposes an advanced Internet of Things (IoT) based road traffic administration system to resolve the problem. All the smart lamp posts of road crossings handle four factors, i.e., number of cars, activation time, waiting time, and emergency signal of each lane. This research uses an automatic video processing method to count the number of cars on the road. In order to process the video mask, R-CNN is used, which is a combination of the faster R-CNN that performs object detection (class + bounding box), and Fully Convolutional Network (FCN) results into a pixel border. Modern statistical methods are also used, such as multiple regression analysis, cluster analysis, and factor analysis. For handling emergency traffic situations, a new activation function was proposed and named the RT pixel border. Modern statistical methods are also used, such as multiple regression analysis, cluster analysis, and factor analysis. For handling emergency traffic situations, a new activation function was proposed and named the RT pixel border.

Keywords: Traffic Jam, IoT, Traffic System, Video Processing.

References:


Author(s): Tushar Deb Nath

Title of the Article: IoT Based Road Traffic Control System for Bangladesh

Website: www.ijrte.org DOI: 10.35940/ijrte.2277-3878
Abstract: Recently, the casualties of automobile traffic accidents are rapidly increasing, and serious accidents involving serious injury and death are increasing more than those of ordinary people. More than 70% of major accidents occur in drowsy driving. Therefore, in this paper, we studied the drowsiness prevention system to prevent large-scale disasters of traffic accidents. In this paper, we propose a real-time flicker recognition method for drowsy driving detection system and drowsy recognition according to the increase of carbon dioxide. The efficiency of the drowsiness prevention system using these two techniques is improved.

Keywords: Drowsy, driving, prevention, detection, IoT.

References:

Author(s): Raed Alshaddadi

Title of the Article: Applying E-Commerce on Small Medium Enterprise: A Case Study for Saudi Perfumes & Cosmetics Retailer in KsA

Abstract: Electronic commerce has been reshaping the aspects of businesses and social life over this period of years. This is made possible with the constant innovation of information system (e.g. website, mobile application) and the global computer network (i.e. internet). There are a number of studies that emphasize on the benefits of adapting this strategy. However, though the benefits of this strategy may well overshadow the issues. The adoption of this strategy is not widely used for the small medium enterprise, opposed to large enterprise. Hence, this research study aims to underline the value and provide recommended guide for applying e-commerce for an small medium enterprise (SME) company. Saudi Perfumes & Cosmetics company located in the Kingdom of Saudi Arabia (KSA) was adapted as the case study. Quantitative research methodology was adopted as the primary techniques using online survey, alongside sources from books, articles, journals and web contents are used as the secondary data. It was found that the company is facing various issues when using direct selling method (e.g. time consuming, difficulty to understand) and the respondents from this survey believes that applying e-commerce would help to resolve this issues. It was concluded that using an off the shelf application provided by Shopify service is the best option. This is given the rationale of having the software provided by the service provider to support both web and mobile application in a single developed application. Therefore, saving cost and development time.

Keywords: The Adoption of This Strategy Is Not Widely Used For The Small Medium Enterprise, Opposed To Large Enterprise.

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Title of the Article: Optimal Placement of DG and FCL Sizing By using Fuzzy-Jaya Algorithm

Abstract: Smart grid is the most significant topic in power system due to numerous benefits. Smart grid is the integration of distributed generation. DG plays an important role in different configurations either in grid connected or islanded mode. Multiple configurations will result in fault currents this may lead to damage to the existing protective devices. In this paper Fuzzy is used to optimally locate DG and Jaya a new optimization technique is adapted to size the Fault current limiter. Controlled Impedance Fault Current Limiter (CI-FCL) is used to reduce the magnitude of fault current and also avoid false tripping of protective devices. A program is developed in MATLAB 2017Ra to test the IEEE 33 and 69 bus distribution systems the results are compared with the analytical PSO method. The results shows the effectiveness of Jaya Algorithm and also reduces the computational time and no. of iterations.

Keywords: Controlled Impedance FCL (CI-FCL), Distributed Generation, JAYA algorithm, Fuzzy approach.

References:

Detecting Fake Drugs using Blockchain

**Abstract:** The existing supply chain for the pharmaceutical industry is obsolete and lacks clear visibility over the entire system. Moreover, the circulation of counterfeit drugs in the market has increased over the years. According to the WHO report, around 10.5% of the medicinal drugs in lower/middle income countries are fake and such drugs may pose serious threats to public health, sometimes leading to death. Keeping these threats in mind, in this paper, we propose a blockchain-based model to track the movement of drugs from the industry to the patient and to minimize the chances of a drug being counterfeit. This will be beneficial for the users getting affected with counterfeit drugs. Moreover, with the proposed model, we will be able to track the movement of the drug beginning from the manufacturer right up to the patient consuming that drug.
Keywords: The reasons for using blockchain technology in our work include its immutability property and easy tracking of an entity in the blockchain.

References:

Intrusion Detection, the meaning of Intrusion must be clear at first. According to the oxford’s learners dictionary “Intrusion is the act of entering a place that is private or where you may not be wanted”. For this article, here it defines intrusion as any un
possessed system or network festivity on one (or more) computer(s) or network(s). Here is the example of a faithful user trying to access the system taking more than the usual trial counts to complete his access to the particular account or trying to connect to an unauthorized remote port of a server. The ex-employee who was being fired lately can provoke intrusion or any authentic worker can also provoke intrusion or any other person from the outside world could perform it. In this clause, the average data is found as the attack which is considered as the case of false positive. In this paper, the main focus is on the illustration and a solution offered for the same problem.

Here we are using the KDD CUP 1999 data set. According to the outcome, the anomaly class is the one that has a higher number of counts than this class. Even if it is the true user trying to get access but the outcome is an anomaly due to the high number of counts in the class. This paper introduces a solution for the detection of a true user and eradicates the false positive.
Title of the Article: Predicting Lead and Nickel Contamination in Soil using Spectroradiometer

Abstract: In the geosciences, visible–near–short-wave infrared reflectance spectroscopy seems to have the capability to become a helpful technique for soil classification, mapping, and remote confirmation of soil characteristics and mineral composition. Focus on improving the spatial resolution of soil maps in order to better deal with localized problems like soil pollution. A variety of physio-chemical properties were measured in long-term spiked soils with a range of lead and nickel concentrations and also their spectral reflectance between 400 and 2500 nm at three different locations in the agricultural region of MIDC, Aurangabad, Maharashtra, India. Principle component analysis (PCA) used for feature extraction of soil were partial least square regression (PLSR) method is used for classification. To measured amount of lead and nickel in soil sample, thirteen features of soil samples are calculated. The main aim of this study was to use statistical methods to calculate the lead and nickel concentrations in soil, as well as to assess the efficiency of VNIR-SWIR reflectance spectroscopy for heavy metal estimation in soil using the ASD FieldSpec4 Spectroradiometer. R2 = 0.96 provides the best precision for lead content and R2 = 0.95 for nickel content in soil, according to the findings. Lead and nickel have RMSEs of 3.396 and 2.680, respectively. The outcomes show that the proposed method is capable of accurately forecasting lead and nickel concentrations.

Keywords: Agricultural soil, ASD Fieldspec-4, Heavy Metals, PCA, PLSR, RS-GIS.

References:

Author(s): Bharati S. Pawar, Ratnadeep R. Deshmukh


Author(s): Million Alemayehu Bedasso, R. Srinu Naik

Title of the Article: Optimal Placement of Unified Power Flow Controller by TOPSIS Method for Loss Minimization

Abstract: In order to eliminate active and reactive power losses in the power system, this paper proposes TOPSIS and DE algorithm for determining the best location and parameter settings for the Unified Power Flow Controller (UPFC). To mitigate power losses, the best UPFC allocation can be achieved by re-dispatching load flows in power systems. The cost of incorporating UPFC into the power system. As a consequence, the proposed objective feature in this paper was created to address this problem. The IEEE 14-bus and IEEE 30-bus systems were used as case studies in the MATLAB simulations. When compared to particle swarm optimization, the results show that DE is a simple to use, reliable, and efficient optimization technique than (PSO). The network's active and reactive power losses can be significantly reduced by putting UPFC in the optimum position determined by TOPSIS ranking method.

Keywords: The Best Location And Parameter Settings For The Unified Power Flow Controller (UPFC).

References:


Author(s): E N S S Anjana, A. Naveena

Title of the Article: Review: IoT Sensors, Classification and Applications in Weather Monitoring

Abstract: In today’s world of ‘Data at Finger Tips’, sensors have become ubiquitous, their applications have become numerous and this data is required round the clock and on-the-go. The data picked up by the sensors is delivered to end-user in real time by IoT and further utilised for real time reports, off-line analysis and data aggregation. This review paper focuses on the different types of IoT sensors used for monitoring of atmospheric parameters. Sensors aided by wireless networking are the backbone of nowcasting and prevailing trends at any given area. IoT sensors data combined with satellite data and operational models enhance accuracy and expedite weather predictions. IoT data enable validation and updating of atmospheric depression models. Comprehensive study of sensors has been carried out and consolidated in this paper for ready reference by all stakeholders-Meteorological department, pollution control board, Non-destructive testing and evaluation of corrosive elements in atmosphere, farmers and horticulturists, to name a few.

Keywords: IoT, Weather Sensors, Data Transmission, Wms, Wireless, Nowcasting.
Abstract: Improving the Accessibility of Urban Green Space (UGS) is an integral part of city planning system. People with better access to green space enjoy a wide range of health benefits. Therefore, it is a crucial element to be taken care and nourished in a land use framework. Mysore City is one of the planned large cities in India. The City had a population of about 0.9 million in 2011 and it is estimated to cross the million mark by 2021. There is a growing consciousness on health and wellbeing among the people resulting an increasing demand for urban green spaces both at neighbourhood and city levels. The accessibility helps in promoting usage of UGS and maintaining the balance in environment within the city areas. The main aim of this paper is to study the existing scenario of the UGS within the planning district-12 and to analyse the green space accessibility. The land use of Mysuru city is analysed to understand and to analyse the green space accessibility. The land use of Mysuru city is analysed to understand and to analyse the green space accessibility.
the city and the micro level land use analysis of Planning district-12 is made. The existing scenario of the UGS within the study area and its accessibility is analysed using different accessibility indicators. Considering the key findings, issues and challenges are identified. Later the suggestions and recommendations for the identified issues is proposed to enhance the green spaces quality and accessibility at neighbourhood levels. The Accessible Natural Green space Standard (ANGst) type of accessibility analysis has been carried to know UGS functionality. Henceforth urban green space network at Planning District levels (local levels) in the City of Mysuru is prepared as a model which can be implemented to the city as whole at the later stages.

Keywords: Urban Green Space, Accessibility, Network, Challenges, Connecting Spaces.

References:

Author(s): Gourav Garg, Ashutosh Sharma, Anshul Arora

Title of the Article: SFDroid: Android Malware Detection using Ranked Static Features

Abstract: Over the past few years, malware attacks have risen in huge numbers on the Android platform. Significant threats are posed by these attacks which may cause financial loss, information leakage, and damage to the system. Around 25 million smartphones were infected with malware within the first half of 2019 that depicts the seriousness of these attacks. Taking into account the danger posed by the Android malware to the users’ community, we aim to develop a static Android malware detector named SFDroid that analyzes manifest file components for malware detection. In this work, first, the proposed model ranks the manifest features according to their frequency in normal and malicious apps. This helps us to identify the significant features present in normal and malware datasets. Additionally, we apply support thresholds to remove the unnecessary and redundant features from the rankings. Further, we propose a novel algorithm that uses the ranked features, and several machine learning classifiers to detect Android malware. The experimental results demonstrate that by using the Random Forest classifier at 10% support threshold, the proposed model gives a detection accuracy of 95.90% with 36 manifest components.

Keywords: Mobile Malware Detection, Mobile Network, Mobile Privacy, Mobile Security.

References:
Test Case Recording using Javascript for Automation Testing

Abstract: Test automation is the usage of software to monitor the execution of experiments and the comparison of actual results with expected results, apart from the software being evaluated. In a formalized web testing method already in place, test automation may automatize certain routines but required tasks and carry out extra testing which can be troublesome to try and perform manually. There is a need to simplify the test case recording process as most of the methods used at present requires the testers to generate scripts using any coding language. Hence, a weightless script less model is developed which uses JavaScript to record mouse and keyboard actions. Selenium framework is used to induce the JavaScript in the browser. Therefore, this paper focuses on developing a lightweight script less model for recording test cases on browsers.
Keywords: Test Automation, JavaScript, Selenium Web Driver, Chrome Automation.

References:

Title of the Article: Multi Label Toxic Comment Classification using Machine Learning Algorithms

Abstract: Toxic comments are the comments found in the online forums that are rude, offensive, or unfair and usually cause many users to exit the conversation. The threat of bullying and abuse on the internet obstructs the free exchange of ideas by limiting people’s opposing viewpoints. Most of the Websites fail to successfully facilitate healthy conversations, leading them to either restrict or disable user comments entirely. This paper would explore the scope of online abuse and categorize them into different labels to assess the toxicity as accurately as possible using machine learning algorithms.
International Journal of Recent Technology and Engineering (IJRTE)  
Volume-10 Issue-1, May 2021, ISSN: 2277-3878 (Online)  
Published By: Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP)

Keywords: Accuracy, Multilabel Classification, Machine Learning Algorithms, Toxic Comments.

References:
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Author(s): Daneshwari I. Hatti, Ashok V. Suitagundar

Title of the Article: Fuzzy Reinforcement Learning Model for Resource Adaptation in IoT

Abstract: The automation of several applications is creating engrossment in Internet of Things (IoT). The prerequisite for employing IoT in daily life is the ability to interact with devices technologies and process the sensed data. The difficulty to process the sensed data with scarce resources for diverse requests is challenging. Learning the behaviour of changing demand and processing with available resources has resulted in adaptation policy. Adaptation policy by employing Reinforcement learning and Fuzzy logic is proposed to adapt the resources for executing the tasks. Prioritization of task, allocating of resources to the tasks by adapting with available resources with assured Quality of Service (QoS) is performed. Fuzzy Q learning Adaptation Algorithm (FQAA) is designed for evaluating resource adaptation mechanisms to execute the heterogenous tasks. The algorithm with different configuration is simulated using Ifogsim and python. It is compared with traditional method that is without adaptation mechanism, performs better compared to other algorithms in terms of Cost, energy consumption and latency.

Keywords: Adaptation, Ifogsim, Resource cost, Energy Consumption, Reinforcement Learning, Fuzzy logic.

References:


**Author(s):** Swathy Krishnan B, Prakhur Duggal, Ravinder Kumar Tomar

**Title of the Article:** Variation in Poison’s Ratio with Change in Grade of Concrete and Type of Steel Reinforcement

**Abstract:** The structure that are widely used around the gold now days are mainly composite structure. These types of models or structures are used to make long span lower story heights and also to give extra stiffness. The past result shows that most of the collapses of buildings occur when the structure is struck with earthquake or seismic load. The poison’s ratio is one of the most integral part which gives stability for the structure. In this research it is about the change is the poison’s ratio that occurs with the change in percentage of steel and the grade of concrete in a reinforced concrete section. The variation in poisons ratio shows the variation in the stability of the structure. The study of the poisons ratio will help in a better practical design of the structure to prevent or the resist the structure from collapse during earthquake. In this paper we will see the experimental variation of the poisons ratio of column and we will analyse the behavior using software. Poison’s ratio usually deals with the lateral strain and linear strain. This poisons ratio was found out by Simeon poison. It is one of the most important aspects in the design of any kind of structure.

**Keywords:** Poisons Ratio (PR), Composite Structure (CS), Lateral Strain, Linear Strain.

**References:**


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**Author(s):** Akshatha N, Shankar B

**Title of the Article:** Conservation Measures for Improving Land Use and Land Cover in Dalvoy Lake Environs of Mysore City

**Abstract:** In recent years of Indian urbanization, the structure of large cities is undergoing rapid land use and land cover changes in lake environs, particularly in Mysore. Mysore is one of the fastest growing tier II cities, located in southern part of Karnataka. The city comprises of several large and small water bodies viz, Karanji Lake, Dalvoy Lake, Kukkarahalli Lake and Devanoor Lake. These lakes play an important role in recharging ground water, regulates microclimate, home for flora and fauna, recreational place for each neighborhood involving in community participation, improve aesthetic of the city and finally influence living condition of the people. Due to rapid transformation of land use and landcover in Mysore has resulted in degradation of water bodies. Dalvoy Lake is one of the major Lakes in Mysore City and it is deteriorating as a result of land use change, growth of industries and urbanization pressures.

**Author(s):** Akshatha N, Shankar B
The total catchment area of Dalvoy Lake is 2165 acres. According to sixth sustainable development goals (clean water and sanitation) targets to protect and restore water-related ecosystems, including wetlands, rivers, and lakes. This paper deals with land use and landcover changes and its analyzing around Dalvoy Lake and its catchment using Remote sensing data and ERDAS imagine software and propose sustainable strategies for environmental improvement and management of the lake.

**Keywords:** Lake Environ, Land Cover, Land Use, Conservation, Remote Sensing.

**References:**

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**Author(s):** Haritha Kannanraj, Sathish Kumar Ravichandran

**Title of the Article:** Monitoring In-House Patients During Pandemic using Internet of Things

**Abstract:** There is a worldwide issue that has increased the number of patients at hospitals, especially as a result of the pandemic. It is difficult for the survivors to attend routine checkups after their surgeries. Our model is helpful to solve the problem. Internet of things (IoT) arrives as a modern technical model, presenting communication and scalability, to clean this challenge. The wireless body space community is gaining quality for IoT related valuable resource packages as wearable devices enter the market. The aim of this paper is to expand the network by incorporating wearable and unobtrusive sensors to track far-flung patients after their surgeries and to receive direct assistance from doctors during an emergency.

**Keywords:** Internet of Things, Wireless Body Space Community, Pandemic, Scalability, Wearable and Unobtrusive Sensors.

**References:**

Title of the Article: Drowsiness Detection System with Speed Limit Recommendation using Sentiment Analysis

Abstract: Driving while drowsy is a ubiquitous and extremely grave public health hazard that requires immediate consideration. Through studies in recent years, it has been proved that about 20 percent of all car accidents have occurred as a result of dozy driving. The main objective of new drowsiness detection systems is accurate doziness recognition. In this regard, the face is the most important part of the body as it sends a lot of essential information. The facial expressions of a drowsy driver include frequency of blinking and yawning. This paper proposes a model which detects the drivers' awareness using video stills of the driver's face and improves the tracking accuracy. Further, we introduce the auxiliary functionality of speed limit recommendations based on the driver's present state of mind. The various facial features are evaluated to determine the drivers' current state. By combining the features of the eyes and mouth, the driver is alerted with a fatigue warning and also suggested a safe speed limit. This system is very essential so as to prevent and hence reduce the number of fatal accidents that occur as a result of dozy driving saving a lot of lives and damage to property.

Keywords: Drowsiness Detection, Speed Limit Recommendation, Sentiment Analysis.

References:


Author(s): Pimpavee Maneewong, Napaporn Narktim, Supavadi Maneewong, Urai Makkana, Bundit Anuyahong

Title of the Article: Factors Affecting the Submission of Financial Statements via the DBD e-Filing System of a Corporation Registered with the Department of Business Development in Prachuap Khiri Khan Province

Abstract: The DBD e-Filing system is a financial statement submission system which is prepared to replace the submission of the original financial statements as a document form leading to increase efficiency and convenience for clients. This research aimed to: 1) study the level of knowledge and understanding of the juristic person responsible for submitting financial statements via DBD e-Filing system; and 2) to study factors affecting the submission of financial statements via DBD e-Filing system of a juristic company registered with the Department of Business Development. The samplings of this study were 400 juristic persons registered with the Department of Business Development in Prachuap Khiri Khan Province derived through Stratified Random Sampling technique. Mean scores, S.D, t-test and F-test (ANOVA and MANOVA) were formulated for data analysis. The findings were as follows: 1) Entities responsible for submitting financial statements had a high level of knowledge and understanding in the submission of financial statements via the DBD e-Filing system both in overall and in each aspect; and 2) Factors affecting the submission of financial statements via the DBD e-Filing system were: a juristic person responsible for submitting financial statements of education levels and different status had a statistically significant difference at 0.05 level through knowledge and understanding in the submission of financial statements and ease of use and usefulness in using the system. Moreover, all three factors were shown a positive impact on the submission of financial statements via the DBD e-Filing system.

Keywords: Submitting Financial Statements of DBD e-Filing System, Knowledge and Understanding of DBD e-Filing System

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Author(s): Parvathy.K

Title of the Article: Wormhole Attacks in Wireless Sensor Networks (Wsn) & Internet of Things (IoT): A Review

Abstract: In the current world people are using the sensing networks called IoT and WSN as the subset of IoT in various applications. The employment of these sensor networks is rapidly increasing. Due to the longer usage of these sensor networks security issues are eventually happening and has the possibility of developing the attacks in the network. In this review, focuses on wormhole attacks in wireless sensor network (WSN) and Internet of Things (IoT) creating a tunnels i.e., wormhole link in between source and the destination node in the network. The classification of wormhole attack in both WSN and IoT are presented based on the mode of attacker. The detection mechanisms of wormhole attack are specified in both WSN and IoT. It hypothesizes the detection strength is more in IoT than the WSN based on the analysis, the parameters of the detection algorithm that the WSN is about 20% while in IoT is 70%.

Keywords: Wireless Sensor Networks, Internet of Things, Security Attacks, Wormhole Attack.

References:


Author(s): Revoori Veeharika Reddy, Nagella Kedharnath, Mandi Akif Hussain, S. Vidya

Title of the Article: Software Defect Estimation using Machine Learning Algorithms

Abstract: Software Engineering is a branch of computer science that enables tight communication between system software and training it as per the requirement of the user. We have selected seven distinct algorithms from machine learning techniques and are going to test them using the data sets acquired for NASA public promise repositories. The results of our project enable the users of this software to bag up the defects are selecting the most efficient of given algorithms in doing their further respective tasks, resulting in effective results.

Keywords: Software Quality Metrics, Software Defect Prediction, Software Fault Prediction, Machine Learning Algorithms

References:

Author(s): Kajal Singh

Title of the Article: Agile Methodology for Product Development: A Conceptual Study

Abstract: Agile is a software development life cycle (SDLC) methodology that is based on smarter and faster operating principles and techniques. The paper aims to review the agile processes, principles, characteristics, and frameworks for the continuous development of the product while controlling the integration, scope, schedule, cost, quality, resources, risk, procurement, and stakeholder management. Traditional product development methods are not much efficient to adjust the rapid changes of the requirements and provide quality products to the stakeholders. Using agile frameworks, the software development team, customers, and team leaders work more closely to produce high-quality products responding to the changes rapidly.

This paper will also present the background analysis of the agile manifesto and will serve as a guide to indicate the characteristics and framework of Agile which places customer satisfaction at the highest priority. Additionally, it will focus on the advantages and disadvantages of the agile projects for faster and frequent delivery of the development.

Keywords: The Integration, Scope, Schedule, Cost, Quality, Resources, Risk, Procurement, and Stakeholder Management

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Author(s): Kamble Namita Mohan, Ramakanth Kumar P

Title of the Article: Scriptless GUI Automation Testing Tool for Web Applications

Abstract: Software tests must be repeated frequently throughout development cycles to attain certain quality. Every
time program code is changed software assessments need to be repeated. Once created, automated tests may be run
repeatedly at no extra value and they may be tons quicker than manually conducted test and free from human errors.
Automated software program testing can lessen the time to run repetitive tests from days to hours. Test automation can
easily run thousands of different complex test cases in each test run, so there is no manual testing involved. But
Automation testing has its own disadvantages one of it is that the testers should come from a programming
background. To eliminate this dependency over programmers Scriptless automation testing tools are emerging. There are many
Scriptless GUI automation testing tools in the market that use various methods to achieve the goal, this paper proposes a
new record and playback method to achieve the same using Selenium framework and JavaScript for web application.

Keywords: GUI Automation Testing, Scriptless, Locators, Data-Driven Architecture.

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based Application”, International Conference on Advances in Computing, Communication Control and
Networking, pp. 1-6, 2018.

Author(s): Byeongtae Ahn

Title of the Article: A Study For Intelligent Campus Service using Zigbee Based on Wsn

Abstract: We propose an integrated management system model for the establishment of a smart campus, such as a
digital library system and a smart card system capable of providing various services using zigbee, which is currently
prominent. The integrated management system can provide a higher quality education environment through transparent
and efficient administrative management and one-stop service provision, away from the labor-intensive system of
educational institutions, and users can provide personalized and knowledgeable intelligent education services that meet
their needs and environments.

Keywords: Intelligent Campus, Sensor, IoT, Zigbee, WSN.
Activity recognition has been an emerging field of research since the past few decades. Humans have the ability to recognize activities from a number of observations in their surroundings. These observations are used in several areas like video surveillance, health sectors, gesture detection, energy conservation, fall detection systems and many more. Sensor based approaches like accelerometer, gyroscope, etc., have been discussed with its advantages and disadvantages. There are different ways of using sensors in a smartly controlled environment. A step-by-step procedure is followed in this paper to build a human activity recognizer. A general architecture of the Resnet model is explained first along with a description of its workflow. Convolutional neural network which is capable of classifying different activities is trained using the kinetic dataset which includes more than 400 classes of activities. The videos last around tenth of a second. The Resnet-34 model is used for image classification of convolutional neural networks and it provides shortcut connections which resolves the problem of vanishing gradient. The model is trained and tested successfully giving a satisfactory result by recognizing over 400 human actions. Finally, some open problems are presented which should be addressed in future research.

Keywords: Video Surveillance, Resnet, Convolutional Neural Network, Kinetic Dataset.
References:


Author(s): Akshata Khasge, Nagaraja G S

Title of the Article: Securing Logs of Functional Testing Infrastructure by Masking Technique

Abstract: As organizations become increasingly reliant on technology and data, data protection is now a mission critical priority. Ensuring that data is safe and uncorrupted is essential for avoiding downtime, ensuring productivity, and improving performance. Data protection is keeping the data i.e. confidential data secure from being corrupted or being compromised. Securing the data from logs also is essential when talking about data protection. The testing infrastructure which outputs logs may contain IP address as sensitive data, and this may be misused by other employes of the organization. So, by masking it or removing it from logs will make testing infrastructure more secure and testing can be done without interference of other.

Keywords: Data Masking, Data protection, Privacy, Security

References:


Hybrid Composites with Various Fiber Size using Compression Moulding Technique

Abstract: Fiber reinforced composites plays major role in improving the strength of various applications in current trends. Based on these trends the combination of natural jute/coir fiber hybrid composite of different size of fiber length was examined in this study. The hybrid fiber composite was fabricated by compression moulding technique by impregnating jute fiber and coir fiber with unsaturated polyester resin, Cobalt octoate and methyl-ethyl-ketone peroxide as accelerator and catalyst. Then the prepared mould placed into the oven to dry for 4 hrs. at 50°C beneath closely to vacuum condition then convert the cured mould to the hot press initially for 1 hr at 105°C under 84 bar pressure until while squeeze out the excess resin, then it was cooled in cold press under constant pressure of 275 bar pressure for 15 min to prevent the warpage of hybrid composites. The micro hardness, tensile, flexural, impact strength of hybrid composite was carried out and the morphology of the composites was evaluated and compared. The test results of the hybrid composite were analyzed by one way ANOVA analysis technique and it shows significant difference among the groups.

Keywords: Hybrid Composite, Compression Moulding Technique, Mechanical Properties, Scanning Electron Microscope, Statistical Analysis

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Title of the Article: Impacts of Disruptive Technology: Implementation of MOOCs in Language Teaching

Abstract: This article presents trends and directions for language teaching instructors, especially in higher education. The objectives of this paper were to investigate the satisfaction of implementation of MOOCs in language teaching and to illustrate the change caused by disruptive technologies effected on behaviors and methods of language teaching-learning process. Due to Covid-19, the pandemic has shown a remarkably dramatic impact on Higher education. The term disruptive technology for e-Learning, therefore, become a common trend in educational system around the world with the rapid transition from traditional classes to online learning systems. Therefore, a robust and implemented approach aimed on improving and empowering the university staff should be created and developed to achieve the highest effectiveness of students’ learning process. In this study, the theory of teaching-learning activity pedagogy and trends in language learning are being proposed. These theories explain and provide conceptual frameworks for Higher Education (HE) to clearly see the interactions and consequences of the new educational paradigm according to disruptive innovation.

Keywords: Disruptive Technology; Disruptive Technology in Education; Disruptive Technology in Education in Higher Education; New Pedagogy; Educational Theory, MOOCs in Language Teaching.

References:


Relative Deadline Analysis in Multitasking RTS using RM & EDF Scheduling

Abstract: In embedded systems the time required for any process to complete its execution in multitasking environment is an important factor to understand the performance of Real Time System (RTS) and its ability fulfill the deadline requirement of each process under different process load conditions. Even though some non-critical systems provide flexibility over deadlines, the hard real time systems are to be designed to meet the deadline requirement of all processes under peak process load condition. The number of processes available in scheduling queue may vary with time, the dynamic load on processing unit also changes proportionately which in turn affects the relative deadlines of each process. The scheduling policies considered are widely used scheduling policies like Rate Monotonic (RM) and Earliest Deadline First (EDF) to analyze and understand the impact on relative deadline with respect to number of scheduled processes. The real time execution timings of each process is observed on Raspberry Pi 3b+ processing unit operating at standard frequency of 700 MHz in multitasking mode of operation. The results obtained will decisively conclude the suitable scheduling policy for a set of processes under different process load conditions.

Keywords: Embedded, Dynamic load, load estimation, Multitasking, Optimization, Rate monotonic, Earliest Deadline First, Real time systems, Absolute deadline, Relative deadline.

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Title of the Article: Mobile Cloud Computing Provides Service Availability using A Context Aware Architecture

Abstract: Mobile systems are becoming increasingly important, and new promising paradigms such as Mobile Cloud Computing. Mobile Cloud Computing is an application that allows data to be stored and processed outside of the mobile node. There is a lot of interest in using the resources that can be accessed by transparently using distributed resource pooling offered by nearby mobile nodes. This type of device is used in emergency, education, and tourism. Systems basically use dynamic network topologies in which network partitions and disconnection occurs frequently, so the availability of the services has been compromised. In this paper proposes the context aware architecture to provide availability of the services deployed in mobile and dynamic network environments which provides better response time, the services need not be migrated at real time, so the bandwidth and energy used has been more efficient.

Keywords: Monitoring Services, Context Service, Replica Service.

References:


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Title of the Article: Reduction of Impulsive Noise from Speech and Audio Signals by using Sd-Rom Algorithm

Abstract: Removal of noise is the heart for speech and audio signal processing. Impulse noise is one of the most important noise which corrupts different parts in speech and audio signals. To remove this type of noise from speech and audio signals the technique proposed in this work is signal dependent rank order mean (SD-ROM) method in recursive version. This technique is used to replace the impulse noise samples based on the neighbouring samples. It detects the impulse noise samples based on the rank ordered differences with threshold values. This technique doesn’t change the features and tonal quality of signal. Rank ordered differences is used for detecting the impulse noise samples in speech and audio signals. Once the sample is detected as corrupted sample, that sample is replaced with rank ordered mean value and this rank ordered mean value depends on the sliding window size and neighbouring samples. This technique shows good results in terms of signal to noise ratio (SNR) and peak signal to noise ratio (PSNR) when compared with other techniques. It mainly used for removal of impulse noises from speech and audio signals.

Keywords: Impulse Noise, Sliding Window, Rank Ordered Differences, Rank Ordered Mean.

References:


Title of the Article: Advancement in Sensor Technology in Shipping

Abstract: Shipping Industries is one of the oldest working industry in this world, but when it comes to going hand in hand with current technologies, maritime sector lags behind. Being the backbone of world trade, it can do wonders once it is digitalized. Modern technologies such as IoT which consists of sensor technology could help us make shipping efficient and sustainable. This paper reviews the existing literature on sensor technologies and its applications which could help us in empowering efficient shipping. We would also deal with challenges this technology comes with and would discuss solution for it. This culmination of different ideas would help maritime industry to get a better angle on sensor technology or IoT in general.

Keywords: Shipping; IoT; Sensor Technology; Digitalization; Maritime transport.

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Title of the Article: Reduction of Power in General Purpose Processor through Clock-Gating Technique

Abstract: Now a days DC power supply plays very important role in the Electronic industry because for every electronic gadget DC power is required to operate it. Even though durable DC batteries are available in the market to operate the various electronic gadgets for more time, electronic designers are continuously concentrating more and more to reduce the power through the various new Technologies like increasing parallel operations, pipe line concepts [1] etc. To work such durable batteries more duration than the actual duration what they can give, in this work we are concentrating on the ‘clock-gating’ technique to reduce the power in the general purpose microprocessor. For every microprocessor clock is required. All operations of any processor are performed by the clock cycle. There are various blocks in the processor but all the blocks are not operated at a time while using it, some blocks in the off mode while other blocks are in the working mode. Hence in order to power off such blocks for a little while clock gating is used in this work. Wherever particular block is not operated, for that block clock is disabled by the clock gating technique. The main principle of clock getting is nothing but ANDing the processor clock with a gate-control signal.

Keywords: DC Power, Electronic Gadgets, Clock Gating, General Purpose Microprocessor, Clock Cycle.

References:

Title of the Article: Converting Traditional Water Supply Network Into 24x7, using Water GEMS to Optimize Design

Abstract: Water is an all-natural driving force. Entire world struggles to preserve it. Given that India is among the top 12 water poor countries, water wastage is a critical issue for us. India’s population is increasing day by day and thus the demand for water is continuously increasing. This growing demand can be met through an efficient water distribution network which can be designed using modern hydraulic software such as Water GEMS. Using the Water GEMS software Pandharapur city is selected to convert existing water supply system into 24 * 7 continuous water supply systems. The largest investment is the pipes used in the water distribution system. The design, modeling and optimization of pipes in water supply system from an economic point of view are very important. Therefore optimal pipe network design for converting existing network into 24x7 water supply system networks is carried out in this paper to reduce the cost using WaterGEM software. Study of the existing water supply network system for one zone (Ambika Nagar Zone-10) is initially carried out from the Pandharapur area. The effect on demand, head loss gradient, and pressure development of the forecasted population is studied. In addition, cost optimization of the pipe network for the proposed 24x7 water supply system is carried out using a genetic algorithms Darwin optimization approach.

Keywords: 24x7 Water Supply System, Optimal Design, Darwin Designer, Water GEMS Software.

References:

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Author(s): Atul Kumar, Guide, Imran Khan

Title of the Article: Harmonics Analysis and Enhancement of Power Quality in Hybrid Photovoltaic and Wind power System For Linear and Nonlinear Load using 3 Levels Inverter

Abstract: The emergent use of non-conventional energy resources in electrical power grid has initiated new challenge for the service load as concern to voltage balance, power quality issues and effective energy operation. Solar/ wind hybrid RES deliberated as the furthermost promising sources. Nevertheless standalone operations of distributed energy sources such as solar and wind not make sure of reliable power production principally owing to the randomness over the solar irradiance and accessibility of the wind. Hence, a combination of wind and solar energy production configuration can plan a highly reliable source of electrical energy. In This article, multi-level inverter (3 levels inverter) based grid tied hybrid solar- wind energy system based on a 3 level inverter is presented with the mitigation of power quality problems. In this work, analysis on simulation model is conceded to determine source current and voltage and percentage of total harmonic distortion. In particular, the power quality analysis is performed in grid tied hybrid solar and wind electrical power system using 3 level inverter.

Keywords: Harmonics, Solar, 3 Level Inverter, Wind Energy, Power Quality.

References:


**Abstract:** In today’s trend consumers are very much concerned about the quality of the product in turn, Industries are all working on various methodologies to ensure the high quality in their products. Most of consumers judge the quality of the product based on the certification obtained for the product. In Earlier days, the quality is measured and validated only through human experts. Nowadays most of the validation tasks are automated through software and this ease the burden of human experts by assisting with them in predicting the quality of the product and that leads to greater a reduction of time spent. Wine consumption has increased rapidly over the last few decades, not only for recreational purposes but also due of its inherent health benefits especially to human heart. This chapter demonstrates the usage of various machine learning techniques in predicting the quality of wine and results are validated through various quantitative metrics. Moreover the contribution of various independent variables facilitating the final outcome is precisely portrayed.

**Keywords:** Machine Learning, KNN, Random Forest, SVM, J48, Wine Quality.

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Abstract: A vehicular ad hoc network (VANET) consist of moving vehicles connected via wireless technology e.g., Wireless Access in Vehicular Environment (WAVE) for the aim of exchanging information. Therefore data dissemination in VANET has become issue of debate for researcher. In VANET broadcasting play an important role. The aim of VANET is to ensure passenger safety through emergency message. With multiple objectives broadcast storm is assume to be an NP-Hard problem. In this paper we propose DDV algorithm to solve broadcast storm problem. Fitness function has used to optimize the objective of proposed algorithm. The proposed algorithm producing better optimization results. We are considering a highway scenario in city with dynamic rotation, to evaluate the performance of the DDV algorithm we compare the result with Smart flooding techniques, MOGA (Multi Objective Genetic algorithm) [1] and EEADP. Our result show the better performance in terms of reduce the number of retransmission, increase the packet delivery ratio and provide better throughput.

Keywords: VANET, Broadcasting, Genetic Algorithm GA, Partial Swarm Optimization (PSO), Geographical Area, Rate of Evaluation, Smart flooding, MOGA

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Author(s): Thanushree V M, S Nanda Kishor, G N Kodandaramaiah

Title of the Article: Ai Based Path Mopping Control for Automatic Floor Cleaning Bot

Abstract: computerized flooring cleaner is a compact robotics device that affords floor cleansing service in rooms and massive workplaces decreasing human hard work. essentially, like a robotic, it eliminates human error and gives cleansing pastime with masses extra performance. If we ease the floor manually then there’s an opportunity that the operator will leave a few elements of the ground. also due to the manual exertions concerned this is time-eating and annoying to ease the ground. additionally, in large places of work, the ground place is very massive and the human beings concerned there for cleaning motive can not easy it a barrier extra efficiently. that is the region the robot comes as a bonus. additionally, the robotic is small and compact in size. So we can elevate it and location it anywhere we will at the residence. additionally, in industries, the robot is a very good price as in assessment to manual hard work worried. the power, time-saving, and effectiveness make the robotic a smooth desire for cleaning the ground.

Keywords: If We Ease The Floor Manually Then There’s An Opportunity That The Operator Will Leave A Few Elements Of The Ground.

References:
Title of the Article: Three Fog Computing Based Variants of Congestion Control in ITS

Abstract: The growth of vehicles and inadequate road capacity in the urban area trigger traffic congestion and raise the frequency of road accident. Therefore the need of drastically reducing traffic congestion is a significant concern. Advancement in the technology like fog computing, Internet of Things (IoT) in Intelligent Transportation Systems (ITS) aid in the more constructive management of traffic congestion. Three IoT based Fog computing oriented models are designed in the present work for mitigating traffic congestion. The first two schemes are vehicle dependent as they control traffic congestion depending upon the number of vehicles and their direction of movement across the intersections. The third scheme is environment dependent as the agent senses the environment and controls the sequence of green signal at different routes dynamically. The performances of the three schemes in ITS are analyzed along with the comparison of storage, communication and computation overhead. The efficacy of the schemes is studied theoretically and quantitatively. The quantitative performance of the three schemes is compared with five existing schemes. On the basis of the result of the comparison, it can be concluded that the proposed schemes are capable of alleviating congestion more optimally than existing schemes due to the substantial reduction in vehicle waiting time.

Keywords: The performances of the three schemes in ITS are analyzed along with the comparison of storage, communication and computation overhead.

References: